



# **Presentation to National Research Council Committee on NASA's Strategic Direction**

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**NASA developed the following from guidance given in the National Aeronautics and Space Act of 1958, NASA Authorization Act of 2010, NASA Appropriations Acts of 2011 and 2012, and the National Space Policy of 2010:**

## **Vision**

To reach for new heights and reveal the unknown, so that what we do and learn will benefit all humankind

## **Mission**

Drive advances in science, technology, and exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.

### **Strategic Plan Goals**

1. Extend and sustain human activities across the solar system.
2. Expand scientific understanding of the Earth and the universe in which we live.
3. Create the innovative new space technologies for our exploration, science, and economic future.
4. Advance aeronautics research for societal benefit
5. Enable program and institutional capabilities to conduct NASA's aeronautics and space activities.
6. Share NASA with the public, educators, and students to provide opportunities to participate in our Mission, foster innovation, and contribute to a strong national economy

### **Policy Priorities**

1. Strengthen NASA's role as an integral component of the Nation's revitalized science, technology and innovation agenda.
2. Make most efficient use of NASA resources through improved project management
3. Enhance interagency, commercial, and international partnerships
4. Structure and implement NASA programs to contribute to national competitiveness
5. Maximize the sustainability and utility of NASA's footprint
6. Structure NASA's education, workforce, and communication efforts to focus on the NASA's ability to contribute to the Nation's innovation agenda

### **2012 Program Priorities**

1. JWST
2. SLS/MPCV
3. ISS and Commercial Crew and Cargo



# Top trends facing NASA...

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- Talent gap...with aging workforce and increased competitive pipeline for young talent
  - Aging infrastructure...
  - New commercial space companies...
  - Other nations emerging with strong space programs...
  - The reality of budget pressures and competition within federal government for tax dollars...
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# Agency Level Strategy Efforts at NASA

## Administrator

Sets the Goals and Objectives for the agency

### **Office of Strategy Formulation**

Office of Strategy Formulation coordinates the long term strategy efforts for the agency working with missions directorates and other key offices. It guides the Administrator on setting NASA's strategic goals and objectives. It also conducts studies and analysis that inform agency wide strategic issues and decisions.

### **Office of Chief of Staff**

#### ***Office of Evaluation***

#### ***Executive Council Staff***

The Office of the Chief of Staff coordinates the internal work across the agency related to evaluation and management councils. Supports studies and analyses that inform setting agency wide strategy.

## Other Offices

### **Office of Chief Financial Officer**

The Office of Chief Financial Officer is responsible for overseeing the annual Planning, Programming, Budget and Execution process for the Agency, and translating strategy into resource requirements working with mission directorates. It also produces the NASA Strategic Plan, and defines how it flows into agency wide performance measurement, working with Office of Strategy Formulation.

### **Office of Legislative Affairs and Office of Communications**

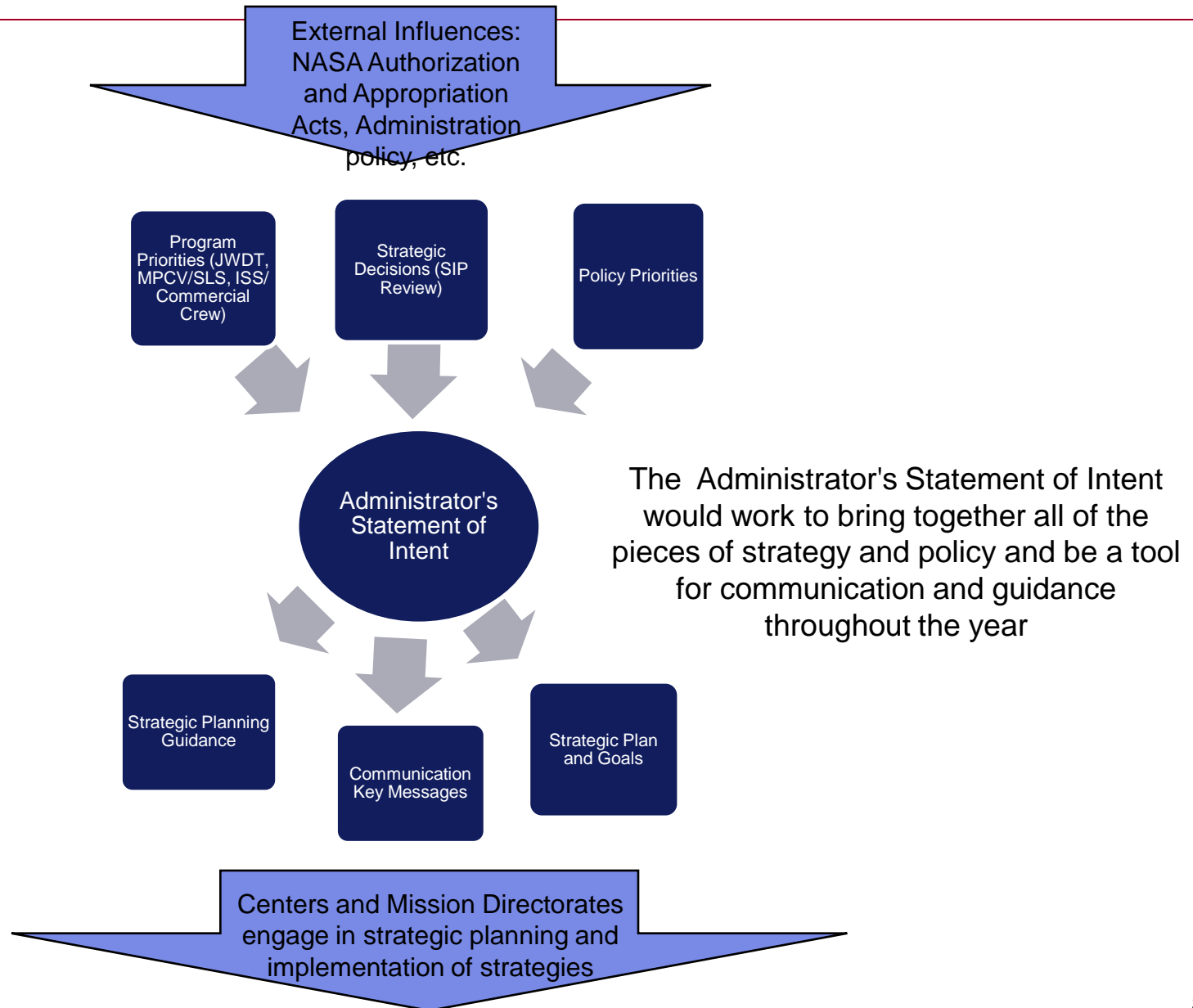
These offices work to ensure that the agency strategy is communicated internally and externally and work with Congress to receive guidance and keep them informed on agency strategy.

### **Mission Directorates and Centers**

These offices conduct strategic planning at the institutional and program level. Centers develop strategies based on their capabilities and the needs of mission directorates. Mission Directorates take external guidance such as legislation, administration policy, and decadal and develop their strategies to achieve the agency goals based on programmatic needs.



# Proposed Approach Aligning Strategy and Goals





# Goals of the NASA Administrator's Strategy Effort

- Establish an Agency-wide commitment among Agency leaders to develop a common *strategy* for achieving NASA's Vision and Mission.
- Develop strategy process based on scenario-planning work and NASA's Strategic Acquisition Planning process using a broad and inclusive communication forum (SMC).
- Define strategic priorities and build consensus among AAs, Center Directors and other Agency leaders.
- Align Agency-level strategy planning with Mission Directorate and Center Director strategy efforts.
- Build strategic framework using portfolio analysis and infrastructure evaluation to facilitate decision-making.
- Develop a resilient strategy within the framework of possible futures to resolve high-level portfolio and infrastructure issues.
- Utilize Strategic Implementation Planning Process to turn strategy into action by feeding results into NASA's implementation process (PPBE).
- Foster innovation and creativity via application of non-standard solutions and lessons learned to NASA challenges and opportunities.



# Strategy to Decisions



## Framework:

- Probable futures
- Portfolio analysis
- Infrastructure analysis

## Strategic studies and analyses

MDs strategic planning

## Ext. policy requirements

## Portfolio constraints and opportunities analysis:

- Strategic programming tools
- Infrastructure strategies
- Make/buy/partner analysis
- Workforce strategies

## Ext. policy constraints

## Strategic Implementation Planning Review

- ## Decision Packages:
- OMB requests
  - Policy Influence
  - Budget re-distribution (internal)
  - Partnerships strategies
  - Workforce strategies
  - Other

**US Space Leadership**

Contributes to global progress through use of space as a strategic asset for the Nation. Draws strength of the Nation's political and economic systems to the world through technological progress.

**Direct/Measurable Payback**

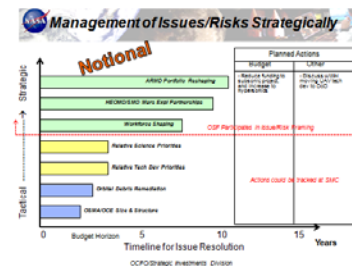
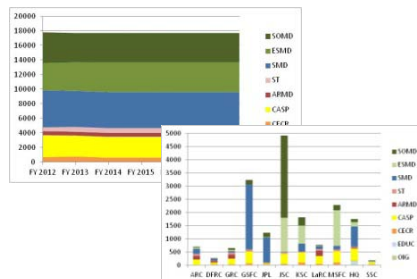
Clear goals, strategies to meet and deliver quantifiable benefit. Specific space-related activities and should be relative to the "bottom" line. Specific, measurable, verifiable by industry, responsive to taxpayer needs and timing.

**Human, Civil, to Explore and Extend Human Presence in Space**

Enhances the individual human spirit to explore our planet in the Universe. Advances knowledge by understanding long-term sustainability of the human system. Business sustainability of life as exploration expands beyond the Earth.

**Seeking Scientific Knowledge & Technological Innovation**

Advances research and technology, openness to the community at large to enable future discovery and innovation. Fully use of government to create a scientific profit pool benefiting all in a self-reinforcing direction. Answers key scientific questions (e.g., climate change, energy).





# Strategy at NASA

- **Given internal and external trends NASA is making a concerted effort to address strategic questions and create a cohesive strategic direction through a number of efforts:**
  - Creation of a Office of Strategy Formulation
  - Reformulation of the Strategic Management Council
  - Development of a Strategic Implementation Planning (SIP) process
- **The Current work also includes:**
  - Strategic Implementation Planning
    - Identifying areas where strategic guidance is necessary
  - Portfolio and Capabilities Assessment
    - Development of potential NASA futures and assessment of current portfolio for scenario planning
  - Ongoing review of external trends
  - Development of goals for 2014 Strategic Plan





# The 4 Futures and the Strategic Framework

- **NASA has developed 4 potential long term futures. These futures are not meant to be mutually exclusive and they do the following:**
  - Give NASA a way to focus its portfolio, shape the strategy with its stakeholders, and communicate its focus and impact to its broader community
  - Were created based on the trends (macroeconomic, technical, aerospace& defense, public sector) that NASA's facing
  - Raise strategic questions for the agency to address
- **The futures are not an end in themselves nor are we selecting one future. Rather they are meant to help with decision making and planning by ensuring we make decisions that allow us to be responsive and flexible.**

# Through trend analysis and discussions with EC, SMC, and NASA focus groups, four distinct rationales that drive NASA's future were identified

## US Global Leadership



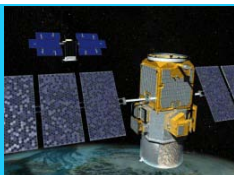
- Contributes to global prestige through use of space as a strategic asset for the Nation
- Signals strength of the Nation's political and economic systems to the world through technological prowess

## Human Drive to Explore and Extend Human Presence in Space



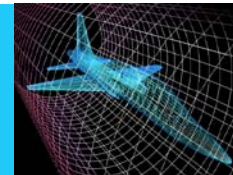
- Enhances the indomitable human spirit to expand our footprint in the Universe
- Allows humankind to create permanent long-term space presence in the solar system
- Bolsters sustainability of life as exploration expands beyond the Earth

## Direct Measureable Payback



- Links goals of programs to clear and direct quantifiable benefit
  - Benefits are not indirect or follow-on and should be intuitive to the taxpayer
  - SMART: Specific, measurable, actionable by industry, responsive to taxpayer needs and timely

## Seeding Technical Innovation and Expanding Scientific Knowledge



- Advances research and technology agendas to the community at large to enable future discoveries and innovation
- Fulfills role of government to create a scientific public good benefitting all (e.g., asteroid threat detection)
- Answers key scientific questions (e.g., black-hole imaging)